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10/789,441	02/27/2004	Peter Ascheuer	P40703US	5002

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Viering, Jentschura & Partner
3770 Highland Ave.
Suite 203
Manhattan Beach, CA 90266

EXAMINER	
ALIA, CURTIS A	

ART UNIT	PAPER NUMBER
2416	

NOTIFICATION DATE	DELIVERY MODE
05/29/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

vjp-us@vjp.de
patint@vjp.de

Office Action Summary	Application No.	Applicant(s)	
	10/789,441	ASCHEUER ET AL.	
	Examiner	Art Unit	
	Curtis A. Alia	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,21,23,24,26-37 and 39-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,21,23,24,26-37 and 39-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 March 2009 has been entered.

Response to Amendment

Applicant's amendment dated 6 March 2009 has been entered. s 20 and 34 have been amended and claim 41 has been added. Claims 20, 21, 23, 24, 26-37, and 39-41 are still pending in this application, with claims 20 and 34 being independent.

Response to Arguments

2. Applicant's arguments filed 7 July 2008 have been fully considered but they are not persuasive.

In response to Applicant's arguments that Lee only teaches that one slave synchronizes to two master devices, the Examiner respectfully disagrees. Lee teaches that a slave can synchronize to a master node in one piconet then resynchronize to another master node in another piconet. Since a well-known feature of the piconets (i.e. Bluetooth) is that a master node

of one piconet can be a slave in another piconet, the slave of a piconet can synchronize itself to the master of that piconet who happens to also be a slave of a piconet.

Applicant's arguments with respect to claims 34-37 and 39-40 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 20, 27, 31, 34-37, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (previously cited US 7,042,863) in view of Lee et al. (newly cited US 2002/0065134).

Regarding claim 20, Morris discloses a method for data transmission, in particular on the basis of the Bluetooth standard (see column 1, lines 43-46), in which data packets can be interchanged by radio by using time slots (see column 1, lines 46-47), the method comprising: establishing a first communication channel between a master subscriber and a first slave subscriber (see column 1, lines 51-54, each slave device is given a chance to transmit, also read as given a channel), operating the first communication channel to perform data exchange during a first time slot followed by a first subsequent time slot in which no data exchange occurs (see figure 1, S_1 transmits in T_1 and then no data is transmitted during T_2 (only a polling broadcast by the master)), establishing a second communication channel between the master subscriber and a second slave subscriber (see column 1, lines 51-54, each slave device is given a chance to

transmit, also read as given a channel) and operating the second communication channel to perform data exchange during a second time slot followed by a second subsequent time slot in which no data exchange occurs (see figure 1, S_2 transmits in T_3 and then no data is transmitted during T_4 (only a polling broadcast by the master)) and wherein synchronizing the second communication channel includes causing data exchange during a specified time slot, the specified time slot determined based upon a time slot in which data exchange occurs in the first communication channel (see column 1, lines 51-54, each slave unit is given the opportunity to use a time slot, read as a slave gets a time slot depending on how many time slots are taken by other slaves in the piconet, thus getting a time slot is based in part on another slave's time slot usage).

Morris does not explicitly teach operating the second communication channel including synchronizing the second communication channel to the first communication channel and determining a synchronization parameter for synchronization of the second communication channel, the synchronization parameter defining a phase offset between a first data interchange and a second data interchange, the first data interchange between the master subscriber and the first slave subscriber via the first communication channel and the second data interchange between the master subscriber and the second slave subscriber via the second communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lee. In particular, Lee teaches operating the second communication channel including synchronizing the second communication channel to the first communication channel (see paragraph 56, a parked slave (second device) receives a beacon broadcast (first channel that goes

to first device) and uses that broadcast beacon to synchronize its own channel (second channel)) and determining a synchronization parameter for synchronization of the second communication channel, the synchronization parameter defining a phase offset between a first data interchange and a second data interchange, the first data interchange between the master subscriber and the first slave subscriber via the first communication channel and the second data interchange between the master subscriber and the second slave subscriber via the second communication channel (see paragraphs 56-58, the broadcast beacon (first channel going to first device) that the parked slave (second device) receives gives the proper phase shift information to the parked slave so that it can achieve synchronization to the master device).

In view of the above, having the method of Morris, then given the well-established teachings of Lee, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris as taught by Lee, since Lee stated that the network can be more efficiently used.

Regarding claim 27, Morris does not explicitly teach that the first time slot in the first communication channel is immediately adjacent in time to the second time slot in the second communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lee. In particular, Lee teaches that the first time slot in the first communication channel is immediately adjacent in time to the second time slot in the second communication channel (see figure 9, parked slaves have adjacent 312.5usec time slots).

In view of the above, having the method of Morris, then given the well-established teachings of Lee, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris as taught by Lee, since Lee stated that the network can be more efficiently used.

Regarding claim 31, Morris discloses that slot-based data interchange takes place between the master subscriber and the first and second slave subscribers (see figures 5-7, every device, whether slave or master, only transmits during a time slot, making the system slot-based).

Regarding claim 34, Morris discloses a data transmission system which is based on the Bluetooth standard (see column 1, lines 43-46), comprising a master subscriber (see figure 2, M), first and second slave subscribers operable to communicate data packets with the master subscriber (see figure 2, S1 and S2) by radio using a time slot method (see column 1, lines 43-51), a first communication channel providing data interchange between the master subscriber and the first slave subscriber (see column 1, lines 51-54, each slave device is given a chance to transmit, also read as given a channel), a second communication channel providing data interchange between the master subscriber and the second slave subscriber (see column 1, lines 51-54, each slave device is given a chance to transmit, also read as given a channel), the second communication channel performing data exchange during a specified time slot, the specified time slot determined based upon a time slot in which data exchange occurs in the first communication channel (see column 1, lines 51-54, each slave unit is given the opportunity to use a time slot, read as a slave gets a time slot depending on how many time slots are taken by

other slaves in the piconet, thus getting a time slot is based in part on another slave's time slot usage) and a control device operable to control a setting up of the first and second communication channels as well as a timing of the data interchange between the master subscriber and each of the first and second slave subscribers (see column 1, lines 41-55, time division duplex scheme where the master establishes communications with up to 7 slaves, each having their own time slot to exchange data with the master).

Morris does not explicitly teach that the control device is being configured to determine synchronization parameters for synchronization of the second communication channel, the synchronization parameter defining a phase offset between a first data interchange and a second data interchange, the first data interchange between the master subscriber and the first slave subscriber via the first communication channel and the second data interchange between the master subscriber and the second slave subscriber via the second communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lee. In particular, Lee teaches that the control device is being configured to determine synchronization parameters for synchronization of the second communication channel, the synchronization parameter defining a phase offset between a first data interchange and a second data interchange, the first data interchange between the master subscriber and the first slave subscriber via the first communication channel and the second data interchange between the master subscriber and the second slave subscriber via the second communication channel (see paragraphs 56-58, the broadcast beacon (first channel going to first device) that the parked slave (second device) receives gives the proper phase shift information to the parked slave so that it can achieve synchronization to the master device).

In view of the above, having the method of Morris, then given the well-established teachings of Lee, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris as taught by Lee, since Lee stated that the network can be more efficiently used.

Regarding claim 35, Morris discloses that the data transmission system comprises a comprising a maximum of five additional slave subscribers, and wherein the master subscriber, the first slave subscriber, the second slave subscriber and the additional slave subscribers are simultaneously actively involved in the data interchange (see column 1, lines 51-54, Bluetooth standard supports 7 active slave units).

Regarding claim 36, Morris discloses the master subscriber and at least one slave subscriber can be operated in an operating mode in which data is interchanged periodically in first time slots and no data is interchanged in adjacent second time slots (see figure 1, S_1 transmits in T_1 and then no data is transmitted during T_2 (only a polling broadcast by the master)).

Regarding claim 37, Morris discloses that the data transmission system includes a cordless digital communication system (see column 1, lines 31+, Bluetooth wireless communication protocol is a cordless (wireless) digital communication system).

Regarding claim 39, Morris discloses that the control device comprises a link manager (see column 1, lines 41+, the Bluetooth standard specifies that up to seven slave units are able to connect to the master, so the master has means for managing links to these slave devices).

Regarding claim 41, Morris does not explicitly teach that the synchronization parameter defining the phase offset represents a phase offset that is referenced from the first communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lee. In particular, Lee teaches that the synchronization parameter defining the phase offset represents a phase offset that is referenced from the first communication channel (see paragraphs 56-58, the broadcast beacon that the parked slave receives is synchronized to the master clock , which gives the proper phase shift information to the parked slave so that it can achieve synchronization to the master device, so the phase offset is relative to the synchronized channel which is synchronized to the master).

In view of the above, having the method of Morris, then given the well-established teachings of Lee, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris as taught by Lee, since Lee stated that the network can be more efficiently used.

5. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Lee as applied to claim 20 above, and further in view of Kim et al. (previously cited US 2003/0103487).

Regarding claim 21, Morris and Lee do not explicitly teach operating the first communication channel in one of the group consisting of a sniff mode and a park mode.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Kim. In particular, Kim teaches that Bluetooth slaves can operate in three power saving modes, including both the sniff mode and park mode (see paragraph 9, lines 1-3, hold, sniff, park modes).

In view of the above, having the method of Morris and Lee, then given the well-established teachings of Kim, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Kim, since Kim stated in paragraph 19 that the number of active and parked slaves are taken into account when configuring beacon slots.

Regarding claim 24, Morris does not explicitly teach that at least one of the group consisting of the first communication channel and the second communication channel includes an ACL data link which is operated in at least one of the group consisting of the sniff mode and the park mode.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Kim. In particular, Kim teaches that at least one of the group consisting of the first communication channel and the second communication channel includes an ACL data link which is operated in at least one of the group consisting of the sniff mode and the park mode (see paragraph 9, lines 1-3, hold mode, park mode, sniff mode, sniff mode is asynchronous).

In view of the above, having the method of Morris and Lee, then given the well-established teachings of Kim, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Kim, since Kim stated in paragraph 19 that the number of active and parked slaves are taken into account when configuring beacon slots.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Lee as applied to claim 20 above, and further in view of Johansson (newly cited US 6,975,613).

Regarding claim 26, Morris does not explicitly teach that the first time slot and the second time slot at least partially overlap.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Johansson. In particular, Johansson teaches that the first time slot and the second time slot at least partially overlap (see column 9, lines 5+, alignment between time slots and time windows may overlap with one another).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Johansson, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Johansson, since Johansson stated that desired delay and throughput can be achieved.

7. Claims 23, 28, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Lee as applied to claim 20 above, and further in view of Ho (newly cited US 2002/0034172).

Regarding claim 23, Morris and Lee not explicitly teach that at least one of the group consisting of the first communication channel and the second communication channel includes an SCO data link, with a time interval of T_{SCO} = 4 timeslots or T_{SCO} = 6 time slots.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ho. In particular, Ho teaches that at least one of the group consisting of the first communication channel and the second communication channel includes an SCO data link, with a time interval of T_{SCO} = 4 timeslots or T_{SCO} = 6 time slots (see paragraphs 39+, SCO time slot periods can be 2, 4 and 6 slots in length, which are integer multiples of 2).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Ho, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Ho, since Ho stated that support for high bandwidth applications can be achieved.

Regarding claim 28, Morris and Lee do not explicitly teach that a period of the first communication channel is an integer multiple of a period of an SCO communication channel operating in a first mode.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ho. In particular, Ho teaches that a period of the first communication channel is an integer multiple of a period of an SCO communication channel operating in a first mode (see paragraphs 39+, SCO time slot periods can be 2, 4 and 6 slots in length, which are integer multiples of 2).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Ho, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Ho, since Ho stated that support for high bandwidth applications can be achieved.

Regarding claim 29, Morris and Lee do not explicitly teach that a period of the second communication channel is an integer multiple of a period of the first communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ho. In particular, Ho teaches that a period of the second communication channel is an integer multiple of a period of the first communication channel (see paragraphs 39+, SCO time slot periods can be 2, 4 and 6 slots in length, which are integer multiples of 2).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Ho, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Ho, since Ho stated that support for high bandwidth applications can be achieved.

Regarding claim 32, Morris and Lee do not explicitly teach that frame-based data interchange takes place between the master subscriber and the first and second slave subscribers.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ho. In particular, Ho teaches frame-based data interchange takes place between the master subscriber and the first and second slave subscribers (see paragraph 5 and figure 1a, frame-based data interchange).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Ho, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Ho, since Ho stated that support for high bandwidth applications can be achieved.

8. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Lee as applied to claim 20 above, and further in view of Taniguchi (newly cited US 7,317,713).

Regarding claim 30, Morris and Lee do not explicitly teach counting the number of zero crossings which have occurred since the setting up of the first communication channel for synchronization purposes and setting up the second communication channel using the counted number to determine the phase angle with respect to the first communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Taniguchi. In particular, Taniguchi teaches counting the number of zero crossings which have occurred since the setting up of the first communication channel for synchronization purposes (see column 31, lines 22+, zero crossings are detected for synchronization purposes) and setting up the second communication channel using the counted number to determine the phase angle with respect to the first communication channel (see column 31, lines 22+, the zero

crossings are detected and phase shift changes are detected so that clock synchronization can be performed).

In view of the above, having the method of Morris and Lee, then given the well-established teaching of Taniguchi, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Taniguchi, since Taniguchi stated that frequency utilization is enhanced.

9. Claims 33 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Lee as applied to claims 20 and 34 above, and further in view of Milley et al. (previously cited US 7,292,588).

Regarding claim 33, Morris and Lee do not explicitly teach that synchronizing the second communication channel further comprises employing a programmable unit, to synchronize the second communication channel.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Milley. In particular, Milley teaches that synchronizing the second communication channel further comprises employing a programmable unit, to synchronize the second communication channel (see column 5, lines 1-20, a CPU in a primary computing device capable of personal area networking comprising generates command data for synchronizing a secondary device with the computing device).

In view of the above, having the method of Morris and Lee, then given the well-established teachings of Milley, it would have been obvious to a person having ordinary skill in

the art at the time of the invention to modify the method of Morris and Lee as taught by Milley, since Milley stated in column 2, lines 23-32 that wirelessly connecting a primary device with a secondary device to display full internet content using a remote display is possible.

Regarding claim 40, Morris and Lee do not explicitly teach that the control device includes a programmable unit.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Milley. In particular, Milley teaches that the control device includes a programmable unit (see column 5, lines 1-20, a CPU in a primary computing device that is programmable).

In view of the above, having the method of Morris and Lee, then given the well-established teachings of Milley, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Morris and Lee as taught by Milley, since Milley stated in column 2, lines 23-32 that wirelessly connecting a primary device with a secondary device to display full internet content using a remote display is possible.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis A. Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

/Curtis A Alia/
Examiner, Art Unit 2416
5/12/2009

CAA